

CLAIMS:

1. A modular hinge for mechanically connecting first and second parts of a handheld electronic device, said modular hinge comprising at least two hinge elements, each hinge element comprising an arm and a boss with a through hole for receiving wiring for electrically connecting the first and second parts, said arm being rotatably mounted on said boss, and wherein the hinge elements are mounted on a bracket with said through holes in alignment.
2. A modular hinge according to claim 1, wherein said through hole is 4mm or larger.
3. A modular hinge according to claim 1 or claim 2, wherein the arm of each hinge element has a circular cut out portion through which the boss extends, the circular cut out portion having an inner surface which slidably cooperates with an outer surface of the boss whereby the arm is supported on the boss and is rotatable relative to the boss.
4. A modular hinge according to any preceding claim, wherein each hinge element further comprises an elastic member mounted on the boss for providing an urging force against a side surface of the arm to securely hold the arm on the boss.
5. A modular hinge according to claim 4, wherein the elastic element is a spring.
6. A modular hinge according to any preceding claim, wherein the bracket is a H-shaped bracket comprising a cross-piece and four lobes, each lobe having a circular cut out portion for mounting the bracket on an outer surface of a boss, wherein the bracket connects four hinge elements together in the hinge module whereby the hinge module can fold through 360°.

7. A modular hinge according to anyone of claims 1 to 5, wherein the bracket is a C-shaped bracket which connects three hinge elements together in the hinge module.

8. A modular hinge according to claim 7, wherein the C-shaped bracket comprises a cross-piece and two lobes, each lobe and the cross-piece having a circular cut out portion for mounting the bracket on three bosses with two of the bosses mounted on the lobes of the C-shaped bracket forming a pair sharing a common axis of rotation.

9. A modular hinge according to claim 8 wherein the modular hinge comprising a further bracket, said further bracket being mounted to the third boss thereby linking the C-shaped bracket and the further bracket.

10. A modular hinge according to claim 9, wherein the further bracket is a second C-shaped bracket having a cross-piece and two lobes, each lobe and the cross-piece having a circular cut away portion for mounting the bracket on three bosses with two of the bosses mounted on the lobes of the C-shaped bracket forming a pair sharing a common axis of rotation and the third boss being common with the third boss mounted to the first C-shaped bracket.

11. A set of hinge elements and at least one bracket for constructing a modular hinge from selected hinge elements from the set, each hinge element comprising an arm and a boss with a through hole for receiving wiring for electrically connecting first and second parts of a handheld electronic device, said arm being rotatably mounted on said boss, and wherein the hinge elements are mountable on the bracket with said through holes in alignment.

12. A handheld electronic device comprising a first body portion, a second body portion and a modular hinge, said modular hinge being disposed between said first and second body portions whereby said first and second body portions are rotatable around at least one axis relative to each other around, said modular hinge comprising at least two hinge elements, each hinge element comprising an

arm and a boss with a through hole for receiving wiring for electrically connecting the first and second parts, said arm being rotatably mounted on said boss, and wherein the hinge elements are mounted on a bracket with said through holes in alignment.

13. A handheld electronic device according to claim 12, wherein one of the second body portions comprises an L-shaped body portion with a portion which extends perpendicular to the first body portion across a width of the first body portion, the hinge module being disposed between this perpendicular portion and the first body portion.

14. A handheld electronic device according to any claim 12 or claim 13, wherein the electronic device is at least one of a mobile gaming device, a mobile phone, a hand-held video recorder, an electronic note pad, an electronic book, a PDA, a calculator, a personal stereo and a dictaphone.

15. A process for manufacturing a handheld electronic device, wherein said process comprises the step of providing a hinge with wiring prior to fitting said hinge to a body of the hand held electronic device and connecting said wiring to electronic components housed within the body.

16. A process for manufacturing a handheld electronic device according to claim 15, wherein said one or more wires or flexible printed circuit pass through rotational centres of the modular hinge.

17. A process for manufacturing a handheld electronic device, said handheld electronic device comprising a first body portion, a second body portion and a hinge, wherein said process comprises the step of providing the hinge with wiring prior to the steps of fitting said hinge to said first and second body portions and connecting said wiring to electronic components housed within the first and second body portions.

18. A process according to claim 17, wherein said hinge comprises at least two hinge elements, each hinge element comprising an arm and a boss with a through hole for receiving said wiring.

19. A method of making a handheld electronic device, said handheld electronic device comprising a first body portion, a second body portion and a hinge, said method comprising selecting from a set of hinge elements at least two hinge elements and mounting said selected hinge elements on a bracket to construct a modular hinge, providing the hinge with wiring, fitting said hinge to said first and second body portions and connecting said wiring to electronic components housed within the first and second body portions.